

## CLAIM AMENDMENTS

### IN THE CLAIMS

This listing of the claims will replace all prior versions, and listing, of claims in the application or previous response to office action:

1. (Canceled)

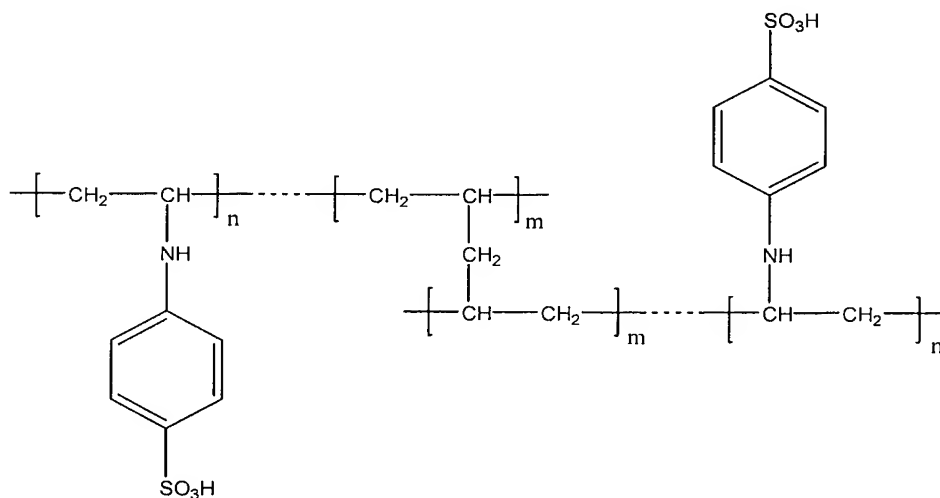
2. (Currently Amended) ~~The membrane of Claim 1~~ A homogenous cation exchange membrane prepared using a method comprising:

brominating a polyvinyl alcohol;

treating the polyvinyl alcohol with an acid to induce sulfonic acid groups;

forming a membrane; and

crosslinking the membrane using a formaldehyde solution to create a homogenous cation exchange membrane, wherein the membrane comprises a compound having the following formula:



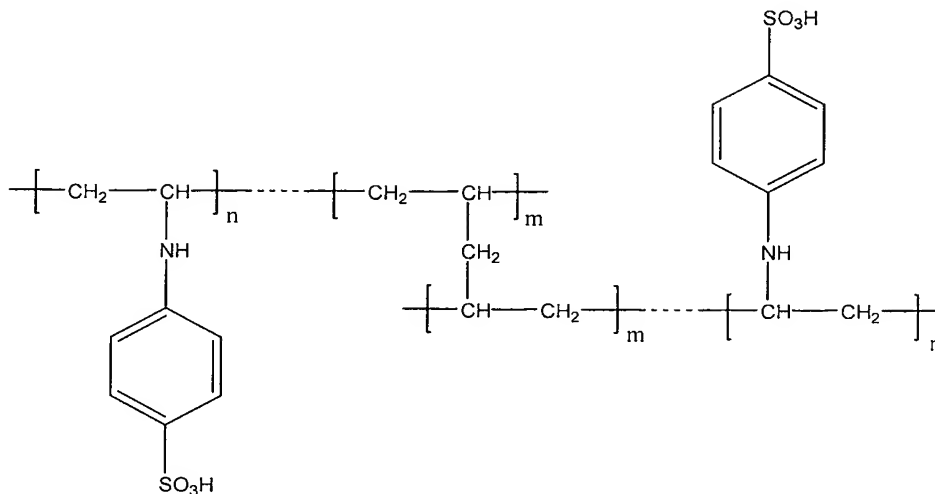
3. (Canceled)

4. (Currently Amended) The membrane of ~~Claim 1~~ Claim 2, wherein the acid comprises sulfanylic acid.

5. (Original) The process of Claim 4 wherein the sulfanylic acid further comprises a 25% solution of sulfanylic acid.

6 - 9. (**Canceled**)

10. (Original) A cation exchange membrane comprising a compound having a formula of:



wherein the membrane is homogenous.

11. (Original) The membrane of Claim 10, wherein the membrane has an ion exchange capacity of 2 to 2.5 meq of sodium/g.

12. (Original) The membrane of Claim 10, wherein the membrane swells between about 25 to 30% in water.

13. (Original) The membrane of Claim 10, wherein the membrane has a resistance of approximately 3 to 4 ohm cm<sup>2</sup>.

14 - 19. (Canceled)

20. (Currently Amended) ~~The process of Claim 14~~ A process for electrodialysis comprising:

passing a solution comprising ions to be removed through a membrane stack having at least one cation exchange membrane prepared using a method including:

brominating a polyvinyl alcohol;

treating the polyvinyl alcohol with an acid to induce sulfonic acid groups;

forming a membrane; and

crosslinking the membrane using a formaldehyde solution to form a homogenous cation exchange membrane;

applying a current orthogonal to membrane surfaces while passing the solution through the membrane stack; and

withdrawing purified or concentrated solution from alternating compartments of the membrane stack, wherein the cation exchange membrane further comprises a compound having the following formula:

